

ABSTRACT OF THE DISCLOSURE

Interference and/or nonlinear distortions are reduced in a signal communicated from a transmitter to a receiver. To reduce interference, the transmitter is momentarily disrupted, during which time the receiver analyzes interference on the communication path to determine the frequency of at least one peak thereof. Information is communicated from the receiver to the transmitter identifying the frequencies of the interference peaks. Based on this information, the transmitter pre-distorts the signal to accentuate the signal magnitude at the identified frequencies. The pre-distorted signal is then communicated to the receiver, where it is filtered to attenuate the signal magnitude at the identified frequencies. An adaptive scheme periodically determines the interference peak frequencies. For nonlinear distortion cancellation (e.g., CSO/CTB), there is no need to disrupt the transmitter since the frequencies of the distortion are already known. Pre-distortion at the transmitter and filtering at the receiver are performed at the known, fixed frequencies.